

Amendments to the Claims

1. (Currently Amended) A method of analyzing a biosample using laser ablation, comprising:

~~wherein~~by irradiating ultra-short pulse laser beams on a biosample to be analyzed by moving the ultra-short pulse laser beams across plural different regions of the biosample area and ablating the sample; to atomize molecules contained in different regions of said biosample are atomized into constituting elements and to ionize; said atomized constituting elements ~~are ionized,~~
analyzing morphologically and compositionally said ionized constituting elements to determine element strength,~~are analyzed, and molecules to be analyzed in said biosample are analyzed and~~
generating an image which simultaneously shows a morphological characteristic and element strength of the irradiated biosample.

2. (Currently Amended) The method of analyzing a biosample using laser ablation according to claim 1, further comprising:

~~wherein~~by directly or indirectly labeling a substance having specific bond to molecules to be analyzed in said biosample; and
compositionally analyzing the molecules to which said labeled substance is bonded;
~~molecules to be analyzed in said biosample are analyzed.~~

3. (Original) The method of analyzing a biosample using laser ablation according to claim

2, wherein said labeled substance having specific bond is nucleic acid.

4. (Original) The method of analyzing a biosample using laser ablation according to any one of claims 1, 2 and 3, wherein the molecules to be analyzed in said biosample are nucleic acid.

5. (Original) The method of analyzing a biosample using laser ablation according to claim 3, wherein the nucleic acid being said labeled substance having specific bond contains DNA, RNA, PNA, and other modified acid.

6. (Original) The method of analyzing a biosample using laser ablation according to any one of claims 2, 3, 4 and 5, wherein said labeled substance having specific bond is bonded by hybridization.

7. (Original) The method analyzing a biosample using laser ablation according to any one of claims 2, 3, 4 and 5, wherein said labeled substance having specific bond is aptamer.

8. (Original) The method of analyzing a biosample using laser ablation according to any one of claims 3, 4, 5, 6 and 7, wherein the labeling of said nucleic acid is performed by a TUNEL method.

9. (Original) The method of analyzing a biosample using laser ablation according to any one of claims 1 and 2, wherein the molecules to be analyzed in said biosample are protein.

10. (Original) The method of analyzing a biosample using laser ablation according to claim 9, wherein said labeled substance having specific bond, which is used for analyzing said protein, is bonded by antigen-antibody reaction.

11. (Original) The method of analyzing a biosample using laser ablation according to any one of claims 2, 3, 4, 5, 6, 7, 8, 9 and 10, wherein said label is an element label.

12. (Original) The method of analyzing a biosample using laser ablation according to claim 11, wherein said element label is a stable isotopic element label.

13. (Original) The method of analyzing a biosample using laser ablation according to any one of claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12, wherein the analysis of said ionized constituting element is mass spectrometry.

14. (Original) The method of analyzing a biosample using laser ablation according to claim 13, wherein said mass spectrometry is mass spectrometry by a time-of-flight method.

15. (Currently Amended) The method of analyzing a biosample using laser ablation

according to any one of claims 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 and 14, further comprising:

wherein conducting multi-channeling ~~is conducted~~ by using plural types of labels as labels,
and

analyzing at least 2 types or more molecules in a single biosample ~~are analyzed~~ as
analytical-target molecules.

16. (Canceled)

17. (Currently Amended) The method of analyzing a biosample using laser ablation according to any one of claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, ~~15~~ and ~~16~~ 15, wherein the pulse time width of said ultra-short pulse laser beams are 1 femto second or more and 1 pico second or less, and the peak value output of the laser beam is 1 mega watt or more and 10 giga watts or less.

18. (Currently Amended) The method of analyzing a biosample using laser ablation according to any one of claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, ~~15~~ ~~16~~ and 17, wherein said biosample is a biotissue section or a smear sample.

19. (Currently Amended) An analyzing apparatus of a biosample using laser ablation, comprising:

an ultra-short pulse laser generating unit ~~capable of adapted to outputting output~~ ultra-short pulse laser beams, to irradiate plural different regions of ~~which by irradiating the beams on a~~

biosample to be analyzed ~~and ablating the biosample;~~ and to atomize atomizes molecules contained in said biosample into constituting elements, ~~and ionizes~~ to ionize said atomized constituting elements;

a spectrometer that introduces and compositionally analyzes the constituting elements that are ionized by the ultra-short pulse laser beams outputted from said ultra-short pulse laser generating unit; and

a microscope unit for observing the shape of said biosample to be analyzed; and
an image generating device to generate an image which simultaneously shows a morphological characteristic and element strength of the irradiated biosample.

20. (Currently Amended) ~~The analyzing apparatus of a biosample using laser ablation according to claim 19~~ An analyzing apparatus of a biosample using laser ablation, comprising:

an ultra-short pulse laser generating unit capable of outputting ultra-short pulse laser beams, which by irradiating the beams on a biosample to be analyzed and ablating the biosample, atomizes molecules contained in said biosample into constituting elements, and ionizes said atomized constituting elements;

a spectrometer that introduces and compositionally analyzes the constituting elements that are ionized by the ultra-short pulse laser beams outputted from said ultra-short pulse laser generating unit; and

a microscope unit for observing the shape of the plural different regions of said biosample to be analyzed,

wherein said microscope unit is an upright microscope, the objective lens of said upright microscope is arranged on the upper surface of said biosample, and the irradiation of the ultra-short pulse laser beams from said ultra-short pulse laser generating unit is performed from the lower surface of said biosample.

21. (Currently Amended) ~~The analyzing apparatus of a biosample using laser ablation according to claim 19;~~ An analyzing apparatus of a biosample using laser ablation, comprising:

an ultra-short pulse laser generating unit capable of outputting ultra-short pulse laser beams, which by irradiating the beams a biosample to be analyzed and ablating the biosample, atomizes molecules contained in said biosample into constituting elements, and ionizes said atomized constituting elements;

a spectrometer that introduces and analyzes the constituting elements that are ionized by the ultra-short pulse laser beams outputted from said ultra-short pulse laser generating unit; and

a microscope unit for observing the shape of the plural different regions of said biosample to be analyzed.

wherein said microscope unit is an upright microscope unit, the objective lens of said upright microscope is arranged on the upper surface of said biosample, and the irradiation of the ultra-short pulse laser beams from said ultra-short pulse laser generating unit is performed from the upper surface of said biosample.

22. (Currently Amended) ~~The analyzing apparatus of a biosample using laser ablation~~

according to claim 19, An analyzing apparatus of a biosample using laser ablation, comprising:

an ultra-short pulse laser generating unit capable of outputting ultra-short pulse laser beams, which by irradiating the beams on a biosample to be analyzed and ablating the biosample, atomizes molecules contained in said biosample into constituting elements, and ionizes said atomized constituting elements;

a spectrometer that introduces and analyzes the constituting elements that are ionized by the ultra-short pulse laser beams outputted from said ultra-short pulse laser generating unit; and

a microscope unit for observing the shape of the plural different regions of said biosample to be analyzed,

wherein said microscope unit is an inverted microscope, the objective lens of said inverted microscope is arranged on the lower surface of said biosample, and the irradiation of the ultra-short pulse laser beams from said ultra-short pulse laser generating unit is performed from the upper surface of said biosample.

23. (Currently Amended) ~~The analyzing apparatus of a biosample using laser ablation~~
according to claim 19, An analyzing apparatus of a biosample using laser ablation, comprising:

an ultra-short pulse laser generating unit capable of outputting ultra-short pulse laser beams, which by irradiating the beams on a biosample to be analyzed and ablating the biosample, atomizes molecules contained in said biosample into constituting elements, and ionizes said atomized constituting elements;

a spectrometer that introduces and analyzes the constituting elements that are ionized by the

ultra-short pulse laser beams outputted from said ultra-short pulse laser generating unit; and
a microscope unit for observing the shape of the plural different regions of said biosample to
be analyzed.

wherein said microscope unit is an inverted microscope, the objective lens of said inverted microscope is arranged on the lower surface of said biosample, and the irradiation of the ultra-short pulse laser beams from said ultra-short pulse laser generating unit is performed from the lower surface of said biosample.

24. (Original) The analyzing apparatus of a biosample using laser ablation according to any one of claims 19, 20, 21, 22 and 23, wherein said ultra-short pulse laser generating unit outputs ultra-short pulse laser beams whose pulse time width is 1 femto second or more and 1 pico second or less and whose peak value output is 1 mega watt or more and 10 giga watts or less.

25. (Original) The analyzing apparatus of a biosample using laser ablation according to any one of claims 19, 20, 21, 22, 23 and 24, said apparatus further comprising: a image analysis apparatus that analyzes images observed by said microscope unit.

26. (Original) The analyzing apparatus of a biosample using laser ablation according to any one of claims 19, 20, 21, 22, 23, 24 and 25, wherein said biosample is a biotissue section or a smear sample.

27. (New) The method of claim 1, further comprising displaying strength of atomic elements in the plural different regions on a screen.

28. (New) The apparatus of claim 19, further wherein the image generating device is adapted to display strength of atomic elements in the plural different regions on a screen.